MISCELANEOUS NOTES ON ANTILLEAN MOSSES, 3.BRAUNIA (HEDWIGIACEAE) AND PSEUDOTAXIPHYLLUM (HYPNACEAE) NEW TO THE WEST INDIES

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Buck, William R. (New York Botanical Garden, Bronx, NY 10458-5126, U. S. A.). Miscellaneous notes on Antillean mosses, 3. *Braunia* (Hedwigiaceae) and *Pseudotaxiphyllum* (Hypnaceae) new to the West Indies. Moscosoa 6: 217-218. 1990. The moss genera *Braunia* and *Pseudotaxiphyllum* are reported as new to the West Indies based upon the collection of *B. secunda* (Hook.) B. S. G. and *P. distichaceum* (Mitt.) Iwats. from high elevations in the Dominican Republic.

Los géneros de musgos *Braunia* y *Pseudotaxiphyllum* se reportan como nuevos para las Antillas. Este informe está basado en colecciones de *B. secunda* (Hook.) B. S. G. y *P. distichaceum* (Mitt.) Iwats. hechas en la República Dominicana.

The moss flora of the high elevations in the Dominican Republic is well known for its continental affiliations (Steere, 1985). Both North Temperate and Andean elements are well represented. A recent study of the biogeography of the Greater Antillean moss flora (Buck, 1990) indicates that it is most likely that these continental elements are not the result of vicariance events, but rather dispersal related to environmental and climatic regimes. In other words, these continental taxa were not rafted with the proto-Antillean islands, but rather established themselves in more recent geological times. This speculation is based on the assumption that when the proto-Antillean island were nearer to the mainland, they were low in elevation, and the highlands were the result of orogenic activity when the Caribbean plate collided with the North American plate. Thus, the habitats necessary for the establishment of these high-elevation species were nonexistent until well after any vicariant events occurred.

Most dispersal events need to be correlated with environmental availability for the establishment of the taxa. I suspect that some of the North Temperate elements became established during Pleistocene times when the climate of the Greater Antilles was similar to that of North America. The South American contingent, which constitutes the bulk of the continental taxa, is probably of more recent derivation. Since wind patterns primarily are from south to north in the Caribbean, this would provide a mode of transport for the spores.

Both the taxa reported here are of continental affinity, one from the north and one from the south. *Braunia secunda* (Hook.) B. S. G. is primarily distributed from Mexico, and parts of Arizona and adjacent states just across the border from Mexico, to northern Argentina. It is also known from Africa and the Himalayas. In the West Indies it is thus far known from only a single collection (Dominican Republic. Prov. San Juan: along stream just E of "La Comparticion", along trail up Pico Duarte, ca. 19°02'N, 70°58'W, 2350 m, on rock, 14 Jan 1987, *W. R. Buck 14174*, NY). The genus characteristically grows on exposed rocks, and this was the habitat where the Dominican collection was found. The species may be more common than this report indicates. At the higher elevations of the slopes of Pico Duarte, the rocks are ofter carpeted with mosses. One of the most common of the mosses

in this habitat is the related *Hedwigidium integrifolium* (P.-Beauv.) Dix. In fact this species is virtually inseparable from *Braunia* when sterile. However, *Hedwigidium* has inmersed capsules whereas *Braunia* has long-exserted capsules. Patient examination of the high elevation epilithic flora may yield additional collections.

The other new report here, *Pseudotaxiphyllum distichaceum* (Mitt.) Iwats., is also from the same general area (República Dominicana. Cordillera Central, limites Prov. San Juan-Santiago, Parque Nacional J. Armando Bermudez, sobre la Loma La Pelona, que está próxima al Pico Duarte, pinar abierto con muchas rocas expuestas, $19^{0}02'$N, $71^{0}01'$W, 3100-3200 m, 8 Dec 1988, *T Zanoni, J. Pimentel & F. Jimenez 42050*, JBSD and NY). It is primarily distributed in the Northern Hemisphere, from southern Ontario in Canada to the Southern Appalachian Mountains of eastern United States. The species is also known from the Himalayan Mountains and from isolated high mountain areas of Central America and Colombia. The species has never been found fertile in the Americas but its characteristic tufs of propagula, in leaf axils at the end of stems and branches, probably act as asexual propagules since they are less than O.5 mm long. These clusters of propagula also aid in taxonomic recognition. The genus *Pseudotaxiphyllum* was only recently seregated from *Isopterygium* (Iwatsuki, 1987). It is characterized by mostly small characters, such as the lack of pseudoparaphyllia, the gemmiform propagula, the differentiated annulus and the dioecious inflorescences.

Although the moss flora of the high elevations of Hispaniola is fairly well collected and documented, it is inevitable that additional records will be found for the island, and thus for the West Indies. It is therefore important that these communities, unique in the Caribean, continue to be protected.

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